

Society Reports.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting held February 8, 1888.

THE PRESIDENT, C. L. DANA, IN THE CHAIR.

Dr. J. B. EMMERSON presented a pile of

RECTANGULAR PRISMS IN A SINGLE FRAME.

The pile consisted of Nos. 2, 4, 6, 8, 10, 12, 14, 16, which were fixed, and two additional prisms, Nos. 1 and 16 which were movable. By subtracting, Nos. 3, 5, 7, etc. were obtained, and by adding, Nos. 18, 20, 22, etc. The apparatus was used in the same way as ordinary prisms, the advantage claimed being increased facility in rapidly changing one prism for another. The muscles could be tested in one-fourth the usual time.

Dr. BIRDSALL asked what was the price of the instrument.

Dr. EMMERSON replied that Meyrowitz furnished it for \$16. Dr. Norris' rectangular prisms cost \$18; the ordinary, set \$12.

Dr. DANA asked whether the instrument would test fractions of a degree, referring to the fact that Dr. Stevens reports errors in fractions.

Dr. EMMERSON replied that he had never tried to test errors in fractions but that the subtraction of a $\frac{1}{2}$ or $\frac{1}{4}$ prism would enable this to be done.

Dr. LESZYNSKY considered the arrangement very ingenious. The principle of subtraction and addition was that of the ophthalmoscope. He however thought tests by prisms unreliable. By means of the prism it was possible to create the appearance of a condition which did not exist.

Dr. IRA VAN GIESON presented specimens stained by Golgi's

method. Blocks 1 to 2c. c. in dimensions were subjected to the action of a 2 per cent. solution of bichromate of potash, or Muller's fluid. The time for hardening varied with the temperature. A constant temperature of 20°C. to 25°C. was preferred. In the summer hardening was completed in from 15 or 20 to 40 or 50 days. In winter 5 to 15 weeks were required. In changing the bichromate solution its concentration was increased up to 5 per cent.

After hardening, the specimen was placed in a solution of nitrate of silver at an average of $\frac{3}{4}$ of one per cent in strength. Where the hardening was incomplete a 1 per cent. solution might be required. Where it was more complete a $\frac{1}{2}$ per cent. might be sufficient. A precipitate of chromate of silver required that this solution should be frequently changed. The specimen was kept in this solution for from 24 to 30 hours. It was then washed in water, embedded, washed in alcohol and cleared with creosote and turpentine. The same result could be obtained by immersion in a corrosive sublimate solution of 1 per cent. strength, but months were required by this method. The speaker also thought it less certain than the one described. Both methods had been modified by Pal of Vienna. The modification required the immersion of the silver or sublimate sections in a 1 per cent. solution of sodium sulphide, which produced a more complete precipitation in the finer processes.

The object of the method was the staining of ganglion cells and processes, the matrix being left clear. There was sometimes a tendency for the silver to precipitate in the pericellular spaces and in the channels around the processes so as to make them appear larger than they ought to be. It was however the only method which had stained the ganglion cell. The speaker had been successful in specimens taken from the cortex. In those from the cerebellum and spinal cord he had been less successful. It was essential that the specimen should not overharden. It was necessary every day or two to sacrifice a piece and try it in the silver solution to determine whether the hardening was sufficient.

Literature in connection with the subject was cited as follows:

C. Golgi, "Recherches sur l'histologie des centres nerveux," Arch. Italiennes de Biologie, Vol. III.-IV, 1883.

C. Golgi, "Sulla fina anatomia degli organi centrali del sistema nervoso," Milano, 1886.

Prof. Forel, "Einige hirnanatomische Betrachtungen und Ergebnisse" Arch. f. Psychiatrie, Bd. XVIII, No. 1.

Bleuler, Correspondenzblatt f. Schweizer Aertze, March. 15, 1886.

J. Pal, "Ein Betrag zur Nervenfarbentechnik," *Med. Jahrbuch-der K. K. Gesellschaft*, '86, No. 8.

C. Mondino, "Recherche macro e microscopische dei cerebri nervosi," Torino, 1886.

Marchi, *Sulla struttura dei corpi striati e thalmi ottici*," (Memoir dal istituto Lombardo di scienze e lettere, 1887.

Tara Tufi, "Sulla A Sull'Anatomia della retina." *Internat. Monatschrift f. Anat. u. Phys.* Bd. IV., H. 10.

L. Petrone, "Sur la structure des nerfs cerebro rachidiens." *Internat. Monatschrift, f. Anat. u. Phys.*, Bd. V, N. 1.

Dr. DANA also presented specimens stained by Golgi's method. He had not so far been so successful as Dr. Van Gieson, but in a few specimens he had got staining which showed one interesting peculiarity of the method, viz : that it at times stained cells of one class ; at others, those of another. In his sections the connective tissue cells only were stained, but these were shown in a striking manner. Obersteiner had stated that by the sublimate method only about $\frac{1}{10}$ ° of the cells were stained. The speaker thought that Golgi's method was a truly epoch-making one, comparable to that of Wiegert for the nerve fibres : but naturally great care would be required in drawing conclusions from what was seen. He presented Marchi's monograph on the structure of the optic thalamus and corpus striatum in which it was shown that the cells of the former ganglion were of the motor type and those of the latter of the sensory.

Dr. SACHS asked whether any facts had been demonstrated by Golgi's method which had not been shown by others.

Dr. VAN GIESON replied that we have no other method which will stain the ganglion cell. Golgi's method showed the axis cylinder as a branch of the cell. It showed also that the protoplasmic processes do not inosculate.

Dr. BIRDSALL objected to this inference. We had no means of knowing that even by this method the whole of the process was stained by Golgi's method, we could trace the process further than by other methods, but we could not say that finer subdivisions which the precipitate failed to indicate did not exist.

Dr. A. D. ROCKWELL read a paper upon

NEURASTHENIA AND LITHÆMIA.

A diagnosis of neurasthenia was often made where the stomach and liver was chiefly at fault. Neurasthenia on the

other hand was often mistaken for lithæmia. Mental depression was common to both ; but irritability was peculiar to lithæmia ; the tongue was coated and the pulse slow rather than fast. Neurasthenia presented many symptoms, those of lithæmia were few and cases were much alike.

In treatment lithæmia responded to mineral waters and restricted diet ; while in neurasthenia relief from work, and anxiety and increased feeding were required.

Dr. BIRDSALL remarked that the term neurasthenia was used to cover a variety of nervous disorders not due to organic disease. The term lithæmia also was commonly used in a vague and incorrect manner. He thought it impossible to make a division between the clinical features of the two conditions. There were many intermediate cases which would disprove any classification. All were probably but parts of a vast group of nerve disturbances based upon faulty conditions of nutrition. Absence and rest had a direct effect upon digestion. The results of treatment thus presented no ground for the conclusions named. Heredity was a marked factor.

Dr. SACHS stated that for a long time he had been skeptical of the existence of a true set of lithæmic symptoms, but that he had found them in private practice and had followed up a number of cases. He agreed with the previous speaker in regarding neurasthenia but a nervous disturbance of which lithæmia might be the ætiological factor. Lithæmia had in his experience been almost limited to women of the wealthy class, suffering from an inactive life. Nervous symptoms were proportioned to the amount of uric acid in the urine. With increased exercise or prolonged massage the uric acid disappeared and the patient improved. Referring to the question of heredity he considered cases with hereditary lithæmic tendencies gouty, and when neurasthenic he classed them as cases of neurasthenia upon a gouty basis.

In treatment he agreed with the reader of the paper. For lithæmia he used cholagogue cathartics, physical exercise and massage.

Dr. BIRDSALL explained that he had referred to the inheritance of neurasthenia, not of the lithæmic symptoms.

Dr. LESZYNSKY had met with cases which merited the name lithæmic neurasthenia. He recalled a case in which nervous symptoms had alternated with gouty manifestations. He had watched the case for two months, during which no diagnosis but that of neurasthenia could be made. At the end of that time a true gouty attack had

developed. While the gout lasted the nervous symptoms were absent, but these returned when the gout disappeared. But little satisfaction was obtained from examining the urine in these cases. It was impossible to separate two classes by its indications. Concentration was common in neurasthenia and other states.

The speaker added that the late Dr. McBride had been accustomed to say that all neurasthenia was due either to lithæmia or muscular anomalies.

Dr. EMMERSON had seen neurasthenia cured by the correction of errors of refraction and muscular anomalies.

Dr. DANA favored the classification of neurasthenic symptoms into further clinical groups, the subdivisions to be based upon the ætiology, symptomatology and the chief seat of the disorder.

Ætiologically : there were the hereditary and the acquired forms. Among the acquired were to be placed the lithæmic.

Symptomatologically : there were the irritative and depressed forms.

Anatomically : there were the cerebral, gastric, sexual and others.

In classification here, as in insanity, the various factors above indicated would have to be used.

Dr. ROCKWELL explained that he had not represented neurasthenia and lithæmia as separate types of disease. He had not said that there was a distinct dividing line between them. He agreed with the lithæmic origin of neurasthenia in some cases. There was also, however, a distinct difference in the behavior of certain cases toward food. In the purely nervous case an abundance of albuminous food was indicated ; while in lithæmia, on the contrary, the quantity of such food was to be curtailed. Notwithstanding the existence of intermediate cases there were others which were distinct requiring distinctive treatment.

Dr. DANA asked whether Dr. Rockwell limited albuminous food in lithæmia.

Dr. ROCKWELL replied that he did. He had indeed cured himself of excessive irritability with lithæmia by dispensing with meat and living mainly on a farinaceous diet.

Dr. DANA referred to the fact that Dr. Draper had in the Practitioners' Society, about two years ago, recommended a purely nitrogenous diet in those cases. He had used the same in his own practice but latterly with some doubt.

Dr. BIRDSALL stated that he too had followed Dr. Draper's rule. In defective digestion, sugars and starches were many times at fault.

Fats too, might be the offending agent. It was not even known that uric acid was the poison in these cases.

Dr. SACHS in his treatment preferred nitrogeous to albuminous food.

Dr. DANA himself was skeptical of the value of albuminous food in lithæmia. It had to be remembered, however, that there were cases in which apparently only nitrogeous food could be digested.